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NNSA Completes Czech Research Reactor Conversion

The VR-1 Sparrow is the first Russian-supplied research reactor to successfully convert from high enriched uranium to low enriched uranium fuel.

WASHINGTON, DC – The National Nuclear Security Administration (NNSA) announced today that the Czech Technical University's research reactor has become the first Russian-supplied reactor to convert successfully from highly enriched uranium (HEU) to low enriched uranium (LEU) fuel.

NNSA converted the reactor as part of its Global Threat Reduction Initiative (GRTI) program, which works to convert research reactors from the use of HEU fuel to LEU fuel by developing high-density LEU fuels and assisting reactors with the conversion process, including feasibility studies, conversion analysis, and licensing support. To date, 42 research reactors have either fully or partially converted to LEU fuel.

"The Czech Republic is at the forefront of international nuclear threat reduction efforts as a result of its repatriation of Russian-origin HEU fresh fuel and recent conversion of its a Soviet-supplied research reactor to LEU fuel. The Czech Republic is the first country to convert a Soviet-supplied reactor and should be commended for showing leadership that benefits international security," NNSA Administrator Linton F. Brooks said.

The VR-1 research reactor is a low-power university training reactor that had been operating with an HEU fuel core. The HEU fresh fuel was removed and reactor converted to run on LEU. In October, replacement LEU fuel was delivered to the Czech Technical University and the VR-1 Sparrow research reactor went critical with LEU fuel.

Profesor Karel Matejka, head of the Department of Nuclear Reactors at Czech Technical University in Prague, said,"We are proud to lead the way in nonproliferation efforts, and in particular we are pleased to be the first Russian-supplied reactor to convert to LEU. We look forward to working with NNSA and other U.S. programs to further cooperation on nonproliferation efforts worldwide."

On September 27, NNSA led a secret operation at the Czech Technical University that removed 14 kilograms (approximately 31 pounds) of HEU from the reactor and securely returned it to the Russian Federation under GTRI's Russian Research Reactor Fuel Return program. The HEU, suitable for a weapon of mass destruction, was airlifted under guard from an airport near Prague, Czech Republic, to a secure facility in Dimitrovgrad, Russia, where the material will be down-blended to LEU. Thus far, eight shipments of HEU from various countries fresh fuel totaling 122 kilograms have been conducted.

NNSA is sponsoring its 2005 Reduced Enrichment for Research and Test Reactors program annual international meeting on November 6-10 in Boston, Massachusetts. Supporters of HEU minimization from all over the world will discuss progress on fuel development and conversion.

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